APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,399	03/03/2000	Israel Daniel Sultan		7363

				EXAMINER
26058	7590	01/15/2004		AKPATI, ODAICHE T

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ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/518,399	SULTAN, ISRAEL DANIEL
	Examiner	Art Unit
	Tracey Akpati	2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) _____ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-18* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>03 March 2000</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Drawings

New corrected drawings are required in this application because the submitted drawings

for Fig. 1 are informal. Applicant is advised to employ the services of a competent patent

draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new

drawings. The corrected drawings are required in reply to the Office action to avoid

abandonment of the application. The requirement for corrected drawings will not be held in

abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah et

al (6449251 B1) in view of Boden et al (6615357 B1) in further view of Stevens (TCP/IP

Illustrated).

With respect to Claim 1, the limitation:

"a network address translating gateway connecting a LAN to an external

network, said LAN using local IP addresses, said gateway having a local IP address that

can be seen by devices on said LAN and having an external IP address that can be seen

by devices on said external network" is met by Awadallah on column 3, lines 60-67 and

on column 4, line 1-8; and

"a plurality of internal tables associating combinations of local IP addresses of local

devices on said LAN, external IP addresses of external devices on said external

network...source port addresses, destination port addresses, reserved port addresses, and

maintaining a list of reserved port addresses" is met by Awadallah on column 4, lines 30-

33 and column 2, lines 26-29; and

"means for performing normal address translation upon datagrams passing from said

LAN to said external network and datagrams passing from said external network to said

LAN" is met by Awadallah on column 3, lines 61-64; and

"means for delivering a datagram from a local device on said LAN to an external device

on said external network by receiving a datagram from a local device on said LAN

intended for delivery to an external device on said external network, and determining

whether the destination port address for said datagram is included in said list of reserved

port addresses if said destination port address is not included in said list of reserved port

addresses, performing normal address translation upon said datagram and passing said

datagram to said external network for routing and delivery to said external device" by

Awadallah on column 3, lines 61-67 and column 4, lines 1-4;

Awadallah et al does not meet the limitation of SPI values neither does he meet the

limitation of IP the routing procedure.

The SPI-In values, SPI-Out values referred to in the second limitation of Claim 1 is met

by Boden on column 1, lines 55-59. It would have been obvious to one of ordinary skill

in the art at the time the invention was made to combine the teachings of Boden within

the system of Awadallah because SPI values are necessary parameters in a gateway

managed by IPSec to be able to tell multiple connections that use the same protocol apart.

The combination of Awadallah et al and Boden et al does not disclose the IP routing

procedure. This is disclosed by Stevens as discussed below.

The limitation "and if said destination port address is included in said list of reserved

port addresses, determining whether said destination port address is bound to said local IP

address of said local device, and if said destination port address is bound to said local IP

address, performing normal address translation upon said datagram and passing said

datagram to said external network for routing and delivery to said external device" is met

by Stevens on Secton 3.3, page 37-38, 1st paragraph; and

"and if said destination port address is not bound to said local IP address of said local

device, modifying said source IP address of said datagram to be said external 1P address

of said gateway, binding said destination port address to said local IP address of said

local device and creating an association between said destination port address and the

external IP address of said external device, and passing said datagram to said external

network for routing and delivery to said external device" is inherent in Stevens in Section

3.3, page 37-38, 1st paragraph.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Stevens within the combination of Awadallah and

Boden to obtain the claimed invention because the IP routing procedure is a basic routing

procedure performed by a router/gateway to a host that is either within a LAN or that

needs to be reached outside of the LAN though a router/gateway.

With respect to Claim 2, all the limitation is met by the combination of Awadallah and

Stevens except that described below.

The limitation "wherein the means for delivering a datagram from a local device on said

LAN to an external device further comprises a means for determining whether said

datagram is encrypted and, if said datagram is encrypted, for determining whether the

SPI of said datagram is recorded in the SPI - Out field in said internal table and, if said

SPI is recorded in said SPI - Out field, modifying the source IP address of said datagram

to be said external IP address of said gateway and passing said datagram to said external

network for routing and delivery to said external device" is met inherently by Boden on

column 1, lines 55-59 and column 3, lines 49-56. It is inherently met by Boden because

SPI (Security Parameter Index) is an index used within IPSec to keep multiple

connections distinct. If absent, the two connections to the same gateway using the same

protocol could not be told apart and hence is necessary for the correct functioning of the

gateway.

It would have been obvious to combine the teachings of Boden within the combination of

Awadallah et al and Stevens because the usage of SPI values forms a necessary part of

the IPsec protocol for routing packets through a gateway, or else the gateway would not

be able to tell multiple connections apart.

With respect to Claim 3, all the limitation is met by the combination of Awadallah et al and

Stevens except the limitation described below.

The limitation "if said SPI is not recorded in said SPI - Out field of said internal table, means for

setting the SPI - In field corresponding to the local IP address of said local device equal to zero

and setting said SPI – Out field equal to said SPI, modifying said source IP address of said

datagram to be said external IP address of said gateway and passing said datagram to said

external network for routing and delivery to said external device" is met inherently by Boden on

column 1, lines 55-59 and column 3, lines 49-56 and explained in Claim 2 rejection above.

It would have been obvious to combine the teachings of Boden within the combination of

Awadallah et al and Stevens because the usage of SPI values forms a necessary part of the IPsec

protocol for routing packets through a gateway, or else the gateway would not be able to tell

multiple connections apart.

With respect to Claim 4, the limitation "…and if said datagram is not encrypted,

determining whether the destination port address for said datagram is included in said

list of reserved port addresses and, if said destination port address is not included in said

list of reserved port addresses, performing normal address translation upon said

datagram and passing said datagram to said LAN for delivery to said local device, and if

said destination port address is included in said list of reserved port addresses…" is met

by Awadallah on column 3, lines 61-67, column 4, lines 1-4. The Awadallah does not

meet the limitation involving SPI values. This is however met by Boden as discussed

below.

The limitation "wherein the network address translating gateway further comprises means for delivering a datagram from said external device to said local device by receiving a datagram from said external device on said external network intended for delivery to said local device on said LAN, means for determining whether said datagram is encrypted and, if said datagram is encrypted, determining whether the datagram's SPI is recorded in said SPI - In field of said internal table and, if said SPI is recorded in said SP1 – In field, modifying the destination IP address of said datagram to be said local IP address of said local device and passing said datagram to said LAN for routing and delivery to said local device, and if said SPI is not recorded in said SPI- In field of said internal table, determining whether said SPI is not recorded in said SPI - In field corresponding to said IP address of said external device is equal to zero, and if said SPI - In field is not equal to zero, discarding said datagram, and if said SPI - In field is equal to zero, setting said SPI - In field equal to said SPI, modifying the destination IP address of said datagram to be said local IP address of said local device and passing said datagram to said LAN for delivery to said local device..." is met inherently by Boden on column 1, lines 55-59 and on column 3, lines 49-56. It would have been obvious to combine the teachings of Boden within the system of Awadallah because the use of SPI values is necessary to the correct operation of a gateway managing multiple connections.

The combination of Awadallah et al and Broden does not meet the limitation of the IP routing description disclosed below. This limitation is met by Stevens as shown below.

The limitation "determining whether said destination port address is bound to the local

IP address of said local device, if said destination port address is not bound to said local

IP address, discarding said datagram, and if said destination port address is bound to

said local IP address, modifying said destination IP address of said datagram to be said

local IP address of said local device, unbinding said destination port address from said

local IP address, and passing said datagram to said LAN for delivery to said local

device" is inherently met by Stevens on Section 3.3, page 37, 38, 1st paragraph. This is

a routine process in IP routing as inherently shown by Stevens.

It would have been obvious to one of ordinary skill in the art to combine the teachings of

Stevens within the combination of Awadallah et al and Boden et al because the IP routing

procedure is a basic routing procedure performed by a router/gateway to a host that is

either within a LAN or that needs to be reached outside of the LAN.

With respect to Claim 5, the limitation "a timer, wherein, upon receiving a signal that a port

address has become bound to an IP address, said timer will commence timing for a

predetermined length of time and, upon the expiration of said predetermined length of time, will

send a signal causing said port address to become unbound from said IP address, and, upon

receiving a signal indicating that said port address has become unbound from said IP address

prior to the expiration of said predetermined length of time, said timer will stop timing and will

reset" is met by Awadallah on column 6, lines 65-67 and column 7, lines 1-4.

With respect to Claim 6, the limitation "in which said external network is the internet" is met by Awadallah on column 1, lines 29-31.

With respect to Claim 7, all the limitation is met by the combination of Awadallah and Stevens except the limitation of the LAN being a VPN.

The limitation "in which said LAN is a virtual private network" is met by Boden on column 1, lines 24-25.

It would have been obvious to combine the teachings of Boden within the combination of Awadallah and Stevens because a VPN is a common and well-known form of implementing a LAN.

Claims 8, 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah et al (6449251 B1) in view of Stevens (TCP/IP Illustrated).

With respect to Claim 8, the limitation "maintaining a plurality of tables associating local IP addresses of local devices on said LAN, external IP addresses of external devices on said external network, port addresses of said local devices, port addresses of said external devices, SPI - In values, SPI - Out values, and reserved port addresses, and a list of reserved port addresses" is met by Awadallah on column 2, lines 26-29, 62-64 and on column 4, lines 30-33.

The limitation "receiving a datagram from said LAN" is met by Awadallah on column 3, lines 64-67 and column 4, lines 1-4.

The limitation "determining whether the destination port address for said datagram is

included in said table of reserved port addresses and, if said destination port address is

not included in said table of reserved port addresses, performing normal address

translation upon said datagram and passing said datagram to said external network for

routing and delivery to said external device" is met by Awadallah on column 3, lines 61-

67, column 4, lines 1-4.

Awadallah however does not meet the limitation disclosed below. This is however met

by Stevens as discussed below.

The limitation "and if said destination port address is included in said table of reserved

port addresses, determining whether said destination port address is bound to an IP

address, and if said destination port is bound to an IP address, performing normal address

translation upon said datagram and passing said datagram to said external network for

routing and delivery to said external device, and if said destination port address is not

bound to an IP address, modifying said source IP address to be said external IP address

for said external device, binding said destination port address to the local IP address of

said local device and creating an association between said destination port address and

said external IP address of said external device, and passing said datagram to said

external network for routing and delivery to said external device" is inherently met by

Stevens on Section 3.3 on page 37-38, 1st paragraph.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Stevens within the system of Awadallah because

the IP routing procedure is a basic routing procedure performed by a router/gateway to a

host that is either within a LAN or that needs to be reached outside of the LAN.

With respect to Claim 10, the limitation is the reverse of Claim 8 and hence Claim 8

rejection stands for Claim 10.

With respect to Claim 18, the limitation "a machine readable storage, having stored

thereon a computer program having a plurality of code sections executable by a machine

and for connecting a LAN to an external network via a network address translating

gateway, wherein said gateway having a local IP address that can be seen by devices on

said LAN and having an external IP address that can be seen by devices on said external

network, and further including a plurality of internal tables associating combinations of

local IP addresses of local devices on said LAN, external IP addresses of external devices

on said external network, source port addresses, destination port addresses, reserved port

addresses, and a list of reserved port addresses, for assisting the machine..." is met by

Awadallah et al on column 2, lines 26-29, column 3, lines 60-67, column 4, lines 1-8 and

30-33.

The limitation "attempting to deliver a datagram from a local device on said LAN to an

external device on said external network by receiving a datagram from a local device on

said LAN intended for delivery to an external device on said external network" is met by

Awadallah on column 3, lines 60-67 and column 4, lines 1-2; and

The limitation "determining whether the destination port address for said datagram is included in said list of reserved port addresses and determining whether said destination port address is bound to said local IP address of said local device performing normal address translation upon said datagram and passing said datagram to said external network for routing and delivery to said external device if said destination port address is not included in said list of reserved port addresses" is met by Awadallah et al on column 3, lines 61-67 and column 4, lines 1-4.

Awadallah et al however does not disclose the limitation discussed below. This however is met by Stevens as shown below.

The limitation "performing normal address translation upon said datagram and passing said datagram to said external network for routing and delivery to said external device, if said destination port address is included in said list of reserved port addresses and if said destination port address is bound to said local IP address; and modifying said source IP address of said datagram to be said external IP address of said gateway, binding said destination port address to said local IP address of said local device and creating an association between said destination port address and the external IP address of said external device, and passing said datagram to said external network for routing and delivery to said external device if said destination port address is not bound to said local IP address of said local device" is met by Stevens on Section 3.3, page 37, 38, 1st paragraph.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Stevens within the system of Awadallah et al

because the IP routing procedure is a basic routing procedure performed by a

router/gateway to a host that is either within a LAN or that needs to be reached outside of

the LAN.

Claims 9, 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Awadallah et al (6449251 B1) in view of Stevens (TCP/IP Illustrated) in further view of Boden

et al (6615357 B1).

With respect to Claim 9, all the limitation is met by the combination of Awadallah and

Stevens except the limitation disclosed below.

The limitation "determining whether said datagram is encrypted and, if said datagram

is encrypted, determining whether the SPI in said datagram is recorded in the SPI - Out

field of one of said plurality of internal tables and, if said SPI is recorded in said SPI -

Out field of said internal table, modifying the source IP address to be the external IP

address of said gateway and passing said datagram to said external network for routing

and delivery to said external device, and if said SPI is not recorded in said SPI - Out

field of said internal table, setting said SPI - Out field corresponding to the IP address

of said external device equal to said SPI and setting the SPI - In field of said internal

table to zero, modifying said source IP address to be said external IP address of said

gateway, and passing said datagram to said external network for routing and delivery

to said external device" is met inherently by Boden on column 1, lines 55-59 and on

column 3, lines 49-56.

It would have been obvious to one of ordinary skill in the art to·combine the teachings

of Boden within the combination of Awadallah and Stevens because the use of SPI

values is necessary to the correct operation of a gateway managing multiple

connections.

With respect to Claim 11, all the limitation is met by the combination of Awadallah et

al and Stevens. The limitation disclosed below is met by Boden.

The limitation "determining whether the SPI in said datagram is recorded in the SPI -

In field of one of said plurality of internal tables and, if said SPI is recorded in said

SPI - In field of said internal table, modifying the destination IP address to be the

internal IP address of said local device and passing said datagram to said LAN for

routing and delivery to said local device, and if said SPI is not recorded in said SPI -

In field of said internal table, determining whether said SPI- In field corresponding to

the IP address of said external device is zero, and if said SPI -In field is not zero,

discarding said datagram, and if said SPI - In field is equal to zero, modifying said SPI

- In field to be said SPI, modifying said destination IP address to be said local IP

address of said local device, and passing said datagram to said LAN for routing and

delivery to said local device" is inherently met by Boden in column 1, lines 55-59 and

in column 3, lines 49-56.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Boden within the combination of Awadallah and

Stevens because the use of SPI values is necessary to the correct operation of a gateway

managing multiple connections.

With respect to Claim 12, the limitation "the steps of starting a timer whenever said

destination port address becomes bound to said local IP address of said local device,

CU resettling said timer whenever said destination port address has become released,

and sending a signal whenever said timer is active and a predetermined length of time

has expired from the time said timer was started" is met by Awadallah et al on

column 6, lines 65-67 and column 7, lines 1-4.

With respect to Claim 13, the limitation is the exact same limitation as Claim 12 and

hence Claim 12 rejection holds.

With respect to Claim 14, the limitation "in which said external network is the

internet" is met by Awadallah on column 1, lines 29-31.

With respect to Claim 15, 16 and 17, all the limitation is met by the combination of

Awadallah and Stevens.

The limitation "in which said LAN is a virtual private network" is met by Boden on

column 1, lines 24-25.

It would have been obvious to one of ordinary skill in the art at the time the invention

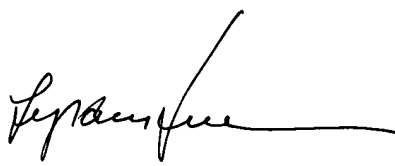was made to combine the teachings of Boden within the combination of Awadallah

and Stevens because a VPN is a well-known form of implementation of a LAN in the

art.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tracey Akpati whose telephone number is 703-305-7820. The

examiner can normally be reached on 8.30am-6.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Vu can be reached on 703-305-4393. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-746-7240 for regular

communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

OTA
January 8, 2004

LY V. HUA
PRIMARY EXAMINER